



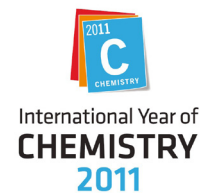
ANTOINETTE O'BRIEN

# FLUORINE

Element Symbol: **F**

Atomic Number: **9**

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Fluorine is the most reactive of all of the chemical elements. Elemental fluorine exists in the gaseous phase as  $F_2$ , a highly toxic yellowish brown gas. Fluorine is primarily obtained from  $CaF_2$ , the mineral fluorite, commonly occurring in nature. The mineral fluorite had been mentioned as early as 1530, however due to its extreme reactivity, the isolation of elemental fluorine was not reported until 1886 when Henri Moissan published his work which later earned him the 1906 Nobel Prize for Chemistry.

Fluorine would be known to most people for the important role it plays in dental care. Compounds such as sodium fluoride (the anionic form of fluorine) are routinely added to toothpaste as an effective method against dental cavities. Many cities around the world including those in Australia, routinely add fluoride compounds to the water supply in support of this effort as well. Many pharmaceutical products are molecules which contain fluorine in them, whilst Teflon the non-stick coating on some cooking utensils is a fluorine containing compound. The compound uranium hexafluoride is important in the nuclear power industry and was also utilised in the development of the atomic bomb.

*Provided by the element sponsor Andrew Blok*

## ARTISTS DESCRIPTION

Fluoride containing compounds derived from fluorine are used in topical and systemic fluoride therapy for preventing tooth decay. This must be the most widely understood application of fluorine in daily life, as such I have depicted a bowl of teeth. An interesting thought regarding dismembered teeth: in ancient china the door of the physician could be adorned with a curtain made of strings of teeth indicating his proficiency in relieving the ailing patient and curing in a sense, a toothache.

**ANTOINETTE O'BRIEN**